

REMARKS

Applicant intends this response to be a complete response to the Examiner's **09 June 2009** Non-Final Office Action. Applicant has labeled the paragraphs in his response to correspond to the paragraph labeling in the Office Action for the convenience of the Examiner.

DETAILED ACTION

Preliminary Statement Concerning Amendments to Specification

Applicant's attorney was reviewing the specification and found numerous reference in the specification to terms like "as described in claim" or similar language. The claim numbers are always listed, but they refer to the original claims in the PCT application. Applicant has, therefore, amended the specification to replace the claim references with the direct teaching from the claims. In this way, the specification is self contained and relate to the original claims as the claim numbering and internal references to issued claims would not be in conformity.

These amendments add no new matter as they were part of the initial PCT application from which the present case is a 35 U.S.C. 371 national phase application.

Election/Restrictions

The Examiner states or contends as follows:

1. Applicant's election of Group I, claims 100-139, in the reply filed on 3/20/2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 140 and 173 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on 3/20/2009.

Applicant acknowledges the Examiner statements.

Claim Rejections - 35 USC § 112

4. **Claim 100-139** stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states or contends as follows:

5. The term "generally" in claims 100, 106, 110, 121, 132 and 139 is a relative term which renders the claim indefinite. The term "generally" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Appropriate correction is required.

Applicant has amended the claims to correct the offending claims language. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

6. Regarding claim 131, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Applicant has restructure claim 131 to remove the indefiniteness. Applicants has moved a portion of the claim language to new claims 198 and 199. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

7. Claims 120-123 recites the limitation "the first attenuated zones". There is insufficient antecedent basis for this limitation in the claims. Appropriate correction is required.

Applicants have amended claim 101 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

8. The term "fibre-like" in claim 135 is a relative term which renders the claim indefinite. The term "fibre-like" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention .. Appropriate correction is required.

9. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031,2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 102 recites the broad recitation "is no more than 4 mm", and the claim also recites "preferably no more than 3 mm", which is the narrower statement of the range, and the claim further recites "still more preferably no more than 2 mm", which is the narrowest statement of the range. Appropriate correction is required.

Applicants have amended claim 135 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

10. Claim 103 recites the broad recitation "on average at least 5%", and the claim also recites "preferably at least 10% longer", which is the narrower statement of the range. Appropriate correction is required.

Applicants have amended claim 103 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

11. Claim 105 recites the broad recitation "no less than 15%" and the claim also recites "preferably no less than 20%", which is the narrower statement of the range, the claim further recites "still more preferably no less than 30%", which is the narrowest statement of the range. Appropriate correction is required.

Applicants have amended claim 105 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

12. Claim 114 recites the broad recitation "no less than 30 MPa" and the claim also recites "preferably no less than 50 MPa", which is the narrower statement of the range, the claim further recites "still more preferably no less than 75 MPa", which is the narrowest statement of the range. Appropriate correction is required.

Applicants have amended claim 114 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

13. Claim 116 recites the broad recitation "the choice of material for B and of depth of A's fluting is such that by stretching of the laminate perpendicular to the direction of A's fluting up to the point where A's waving has disappeared, B still has not undergone any significant plastic deformation" and the claim also recites "preferably B comprises a thermoplastic elastomer", which is the narrower statement of the limitation. Appropriate correction is required.

Applicants have amended claim 116 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

14. Claim 120 recites the broad recitation "more than half of" and the claim also recites "preferably no less than 70% of the width", which is the narrower statement of the range. Appropriate correction is required.

Applicants have amended claim 120 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

15. Claim 123 recites the broad recitation "less than 75%" and the claim also recites "preferably less than 50%", which is the narrower statement of the range, the claim further recites "more preferably less than 30%", which is the narrowest statement of the range. Appropriate correction is required.

Applicants have amended claim 123 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

16. Claim 124 recites the broad recitation "consist of material which is orientable at room temperature" and the claim also recites "preferably they mainly consist of polyolefin", which is the narrower statement of the limitation. Appropriate correction is required.

Applicants have amended claim 124 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

17. Claim 127 recites the broad recitation "one or both plies are flattened at intervals" and the claim also recites "preferably bonded across each ones entire width at the flattened locations", which is the narrower statement of the limitation. Appropriate correction is required.

Applicants have amended claim 127 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

18. Claim 129 recites the broad recitation "no less than 700 MPa" and the claim also recites "preferably no less than 1000 MPa", which is the narrower statement of the range. Appropriate correction is required.

Applicants have amended claim 127 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

19. Claim 131 recites the broad recitation "said material is a preservative" and the claim also recites "preferably an oxygen scavenger or ethylene scavenger, a biocide, such as a fungicide or bactericide, a corrosion inhibitor or a fire extinguishing agent", which is the narrower statement of the limitation. Appropriate correction is required.

Applicants have amended claim 127 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

The Examiner states or contends as follows:

20. Claim 136 recites the broad recitation "used as a sanitary backsheet" and the claim also recites "preferably on a diaper or as a sheet for covering a patient during surgery", which is the narrower statement of the range. Appropriate correction is required.

Applicants have amended claim 127 to remove the antecedent basis problem. These amendments are not narrowing amendments and no estoppel attaches thereto.

Claim Rejections - 35 USC § 102

22. **Claims 100-105, 110, 111, 121, 122, 127, 128 and 130-138** stand rejected under 35 U.S.C. 102(b) as being anticipated by Clark (US 4,588,631).

The Examiner states or contends as follows:

23. Regarding claim 100, Clark discloses a laminate comprising a monofilm-formed ply A (Fig. 3, one of corrugated sheets 15), and another monofilm-formed ply B (Fig. 3, another one of corrugated sheets 15), both mainly comprising orientable thermoplastic polymer material (col. 4, lines 46-53), in which ply A (Fig. 3, one of sheets 15) has a fluted (corrugated) configuration and ply B (Fig. 3, another one of sheets 15) on a first side is adhesive bonded in bonding zones to the crests on a first side of A (Fig. 3; col. 5, lines 5-30), where ply B also has a fluted (corrugated) configuration (Fig. 3, sheet 15), the flute direction of ply B is forming an angle of 90° to the flute direction of ply A (Fig. 3, sheets 15) and the bonding zones are on the crests of the first side of ply B to produce spot bonding with the crests on the first side of ply A (Fig. 3, sheets 15; col. 5, lines 8-30), the adhesive bonding is directly ply A to ply B (Fig. 3, sheets 15) and is established through a lamination layer on either ply A or ply B (col. 5, lines 11-25), and the wavelengths of the flutes in ply A and/or ply B are deemed no longer than 5 mm, and the wavelengths of the flutes in both A and B are deemed less than 10 mm (col. 8, lines 51-53), since the peak-to-peak distance of the waves of the corrugated sheet is 0.0476 inches (1.2 mm).

Clark relates to supports for permeators. The supports comprises mandrel wound layers of tape separated by spaces. The space can be due to corrugated structures or sand interposed between successive tape layers. However, the supports can also be constructed of "a criss-crossed stack of corrugated sheets (15) which may consist of a fiber glass/resin composite, of a metal or of a ceramic (the term being used in its broadest sense), or any other otherwise suitable, **rigid material**." Clark at Col. 6, ll. 52-56.

The Clark structure shown in Fig. 3 requires rigid materials, which relates to structures pictorially similar to the structures of this invention. The present invention relates to flexible material. Bonding of the Clark Fig. 3 structures cannot be performed in a laminating process, but must be done using a wholly different bonding system as the bonding is not between thermoplastics, but between fiber glass composites, metals or ceramics, none of which can be laminated in the laminating processes of this invention.

Because Clark does not disclose flexible laminates constructed of flexible plies that are

bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 100. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

24. Regarding claim 101, Clark discloses the thickness of each of the plies being generally the same in bonded and unbonded zones (Fig. 3, sheets 15 and Fig. 1, *tz* and col. 9, lines 65-68).

Applicants reasserts is argument relative to Clark here, and regardless of the thickness of the plies, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 101. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

25. Regarding claim 102, Clark discloses the flute wavelength in each of the two plies being no more than 4 mm, since the peak-to-peak distance of the waves of the corrugated sheet is 0.0476 inches (1.2 mm) (col. 8, lines 51-53).

Applicants reasserts is argument relative to Clark here, and regardless of the flute wavelengths, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 102. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

26. Regarding claims 103 and 104, in Fig. 3 of Clark, it is deemed to show that each of the two plies (15) has a flute with a curved length on average of at least 5%, preferably at least 10% longer, and of at least 15% longer than the linear wavelength (also see Fig. 1).

Applicants reasserts is argument relative to Clark here, and regardless of whether the two plies are fluted, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claims 103 and 104. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

27. Regarding claim 105, the width of each bonding zone (tips of the crests of the waves in Figs. 1 and 3) is deemed to be no less than 15%, preferably no less than 20%, and still more preferably no less than 30% of the flute wavelength.

Applicants reasserts is argument relative to Clark here, and regardless of the type of bonding zones, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 105. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

28. Regarding claim 110, the main direction in which the flutes of ply A extend is substantially perpendicular to the main direction in which the flutes of ply B extend (Fig. 3, sheets 15).

Applicants reasserts is argument relative to Clark here, and regardless of the direction of the flutes, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 110. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

29. Regarding claim 111, one of the two directions of the flutes essentially coincide with the machine direction of the lamination (Fig. 3 and col. 8, lines 34-40).

Applicants reasserts is argument relative to Clark here, and regardless of two directions of the flutes, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 111. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

30. Regarding claim 121, the tips of the crests of the flutes in Figs. 1 and 3 are deemed first attenuated zones and are deemed coincident with the bonding zones (the tips of the crests of the flutes in Figs. 1 and 3).

Applicants reasserts is argument relative to Clark here, and Clark does not disclose attenuation zones, the Clark materials are not flexible, but rigid. Because Clark does not disclose

flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 121. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

31. Regarding claim 122, the first attenuated zones are present at least in one of the two plies (Fig. 3, tips of crests of the flutes), characterized by a second solid-state-attenuated zone between each pair of adjacent first attenuated zones, the second attenuated zones being narrower than the first attenuated zones and located on the non-bonded crests of the respective ply (see Figs. 1 and 3).

Applicants reasserts its argument relative to Clark here, and Clark does not disclose attenuation zones, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 122. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

32. Regarding claims 127 and 128, note at least some of the flutes in both plies are flattened at intervals and preferably bonded across each one's entire width at the flattened locations to make the two arrays of flutes form closed pockets (Figs. 1 and 3), and the flattened portions are all of the flutes in array (Figs. 1 and 3).

Applicants reasserts its argument relative to Clark here, and Clark does not disclose closed pockets as Clark requires direct flow paths, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claims 127 and 128. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

33. Regarding claims 130 and 131, note at least some of the channels formed by the flutes in plies A and B contain a filling material in liquid form which is a preservative (effluent; col. 6, lines 8-10).

Applicants reasserts its argument relative to Clark here, and Clark does not disclose channels containing a filling material as Clark requires direct flow paths, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent

dissolution), Clark cannot anticipate claims 130 and 131. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

34. Regarding claim 132, note both A and B are supplied with a multitude of perforations, whereby the perforations do not reach into the bonded spots, and the perforations in A are displaced from the perforations in B so as to cause gas or liquid when passing through the laminate, to run a distance through the flutes parallel to the main surfaces of the laminate (openings; col. 4, lines 4-7).

Applicants reasserts is argument relative to Clark here, and Clark does not disclose perforations in the structure as this would directly compromise the operation of Clark as a permeator, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 132. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

35. Regarding claim 133, the channels contain filling material (effluent; col. 6, lines 8-10).

Applicants reasserts is argument relative to Clark here, and Clark does not disclose closed pockets as Clark requires direct flow paths, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 127 and 128. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

36. Regarding claim 134, the limitation is a functional limitation and is deemed to be an inherent characteristic of the prior art, since Clark discloses a laminate having the same structure as the claimed laminate (see above). MPEP 2114 and 2173.05(g).

Applicants reasserts is argument relative to Clark here, and Clark does not disclose closed pockets as Clark requires direct flow paths, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 134. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

37. Regarding claim 135, note a nap of fiber-like film portions protruding from the borders of the perforations of at least one surface of the laminate (col. 7, lines 63-66).

Applicants reasserts is argument relative to Clark here, and regardless of a fiber-lip nap covering over the laminate, the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claim 135. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

38. Regarding claims 136-138, the limitations "used as a sanitary backsheet", "used for insulation of buildings", and "used as a geotextile" are recitations of the intended use of the claimed invention. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. MPEP 2111.02 (II) and 2114. As shown above, Clark teaches the same structure of the claimed laminate. Therefore, the laminate of Clark is capable of performing the intended use as claimed.

Applicants reasserts is argument relative to Clark here, and regardless of the use of the laminates as the Clark materials are not flexible, but rigid. Because Clark does not disclose flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark cannot anticipate claims 136-138. Applicant, therefore, respectfully requests withdrawal of this rejection.

39. Claims 100, 102, 107, 110-126, 129 and 139 stand rejected under 35 U.S.C. 102(b) as being anticipated by Rasmussen (US 5,626,944).

The Examiner states or contends as follows:

40. Regarding claim 100, Rasmussen discloses a laminate comprising a multifilm-formed ply A, and another multifilm-formed ply B (col. 6, lines 55-65), both mainly comprising orientable thermoplastic polymer material (col. 16, lines 40-50), in which ply A has a fluted (ribbed) configuration (col. 5, lines 53-57) and ply B on a first side is adhesive bonded in bonding zones to the crests on a first side of A (col. 6, lines 18-33 and lines 55-65), where ply B also has a fluted (ribbed) configuration (col. 5, lines 53-57), the flute direction of ply B is deemed to form an angle of 90° to the flute direction of ply A, since a cross-laminate is being formed (see abstract), and the bonding zones are on the crests of the first side of ply B to produce spot bonding with the crests on the first side of ply A (col. 6, lines 18-33), the adhesive bonding is directly ply A to ply B and is established through a lamination layer on either ply A or ply B (col. 6, lines 55-65), and the wavelengths of the flutes in ply A and/ or ply B are no longer than 5 mm, and the wavelengths of the flutes in both A and B are less than 10 mm (col. 4, lines 35-37).

Rasmussen '944 does not disclose laminating fluted plies, where the fluted plies bond at

points of intersection of the flute crests. While Rasmussen '944 does disclose waved structures, the waves are formed into the cross-laminate after the cross-laminated is formed. In fact, the present invention can use cross-laminates of Rasmussen '944 in the construction of the fluted plies.

Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 100. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

41. Regarding claim 102, Rasmussen discloses the flute wavelength in each of the two plies being no more than 4 mm, preferably no more than 3 mm and still more preferably no more than 2 mm (col. 4, lines 35-37).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 102. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

42. Regarding claim 107, the flutes are curved or zig-zagging along one direction (claim 10).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 107. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

43. Regarding claim 110, the main direction in which the flutes of ply A extend is substantially perpendicular to the main direction in which the flutes of ply B extend, since a cross-laminate is being formed (claim 1).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 110.

Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

44. Regarding claim 111, one of the two directions of the flutes essentially coincide with the machine direction of the lamination (see abstract).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 111. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

45. Regarding claim 112, ply A is molecularly oriented mainly in a direction parallel to the direction of its flutes or in a direction close to the latter as determined by shrinkage tests (claim 1).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 112. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

46. Regarding claim 113, ply B is also molecularly oriented (claim 1).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 113. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

47. Regarding claim 114, the limitation is deemed a latent property of the prior art, since the composition and/or structure of the laminate in Rasmussen is substantially identical to that of the claimed laminate. It has been held that mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. MPEP 2145 (II).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944

does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 114. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

48. Regarding claim 115, ply B inherently has a lower coefficient of elasticity than A, both as measured in the direction perpendicular to the flute direction of A, since the laminate in Rasmussen has substantially the same composition and/or structure as that of the claimed laminate.

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 115. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

49. Regarding claim 116, ply B is a thermoplastic elastomer (col. 6, lines 55-65).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 116. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

50. Regarding claim 117, ply B is molecularly oriented mainly in a direction parallel to the direction of its flutes or in a direction close to the latter as determined by shrinkage tests (claim 1).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 117. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

51. Regarding claim 118, ply A is composed of several films, and the main direction of molecular orientation, is the resultant of different mono axial or biaxial orientations in the films optionally mutually differently directed (claims 1 and 9).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 118. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

52. Regarding claim 119, ply B is composed of several films, and the main direction of molecular orientation, is the resultant of different monoaxial or biaxial orientations in the films optionally mutually differently directed (claims 1 and 9).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 119. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

53. Regarding claim 120, the first attenuated zones are present in at least one of the two plies wherein if such zones of attenuated ply extend in their transverse direction beyond the corresponding zones of bonding into non-bonded zones of the ply, the extensions within each non-bonded zone are limited to a total width which leaves more than half of and preferably no less than 70% of the width of the non-bonded zone as not belonging to any first attenuated zone, these widths being the distance measured along the curved surfaces (see Figure 1).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 120. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

54. Regarding claim 121, the first attenuated zones are present in at least one of the plies and in which the bonding zones are generally coincident with the first attenuated zones (Figs. 1 and 4).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944

does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 121. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

55. Regarding claim 122, the first attenuated zones are present at least in one of the two plies, characterized by a second solid-state-attenuated zone between each pair of adjacent first attenuated zones, the second attenuated zones being narrower than the first attenuated zones and located on the non-bonded crests of the respective ply (Fig. 4).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 122. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

56. Regarding claim 123, note at least one of the two plies exhibits solid-state-attenuated zones wherein the first attenuated zones of the ply are attenuated so that the minimum-thickness in such zone is less than 75% of the maximum thickness of the ply in the non-bonded zone (Figs. 1 and 4).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 123. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

57. Regarding claim 124, plies A and B consist of poly olefin (claim 9).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 124. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

58. Regarding claim 125, the spot-bonding between plies A and B is effected through a lower melting surface layer on at least one of the plies, formed in a coextrusion process (col. 6, lines 55-65).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 125. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

59. Regarding claim 126, note at least one of the plies comprises a barrier film designed for protection against oxygen and other gaseous materials (col. 6, lines 55-65).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 126. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

60. Regarding claim 129, the coefficient of elasticity E in at least one of the plies, measured in the unbonded zone of the ply in the direction parallel to the flute (rib), as an average over the unbonded zone is inherently no less than 700 MPa and no less than 1000 MPa, since the laminate in Rasmussen has substantially the same composition and/or structure as that of the claimed laminate.

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 129. Applicant, therefore, respectfully requests withdrawal of this rejection.

The Examiner states or contends as follows:

61. Regarding claim 139, Rasmussen discloses a bag made from the laminate wherein the flutes on one of the two major surfaces of the bag are perpendicular to the flutes on the other major surface of the bag (col. 1, lines 26-29 and col. 5, lines 65-66).

Applicant reasserts the arguments concerning Rasmussen '944 here. While Rasmussen '944 does teach cross-laminates having a waved structure, Rasmussen '944 does not disclose bonding

cross-waved cross-laminates. Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot anticipate claim 139. Applicant, therefore, respectfully requests withdrawal of this rejection.

Claim Rejections - 35 USC § 103

63. **Claims 106-108** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (US 4,588,631).

The Examiner states or contends as follows:

64. Clark discloses the claimed laminate as described above except for the flutes extending in a generally rectilinear shape, being curved or zig-zagging and/or branched, and being differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar. It would have been an obvious matter of design choice to change the shape of the flutes in Clark to be in a rectilinear shape, be curved or zig-zagging and/or branched, and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar, since such a modification would have involved a mere change in the shape of the flutes. A change in shape is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (IV). One of ordinary skill in the art would have been motivated to change the shape of the flutes in Clark to be rectilinear in shape, be curved or zig-zagging and/or branched, and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar in order to change the visual appearance of the laminate. It is desirable to change the visual appearance of the laminate in Clark in order to make the laminate more appealing to the consumer.

Clark relates to supports for permeators. The supports comprises mandrel wound layers of tape separated by spaces. The space can be due to corrugated structures or sand interposed between successive tape layers. However, the supports can also be constructed of "a criss-crossed stack of corrugated sheets (15) which may consist of a fiber glass/resin composite, of a metal or of a ceramic (the term being used in its broadest sense), or any other otherwise suitable, **rigid material**." Clark at Col. 6, ll. 52-56.

The Clark structure shown in Fig. 3 requires rigid materials, which relates to structures pictorially similar to the structures of this invention. The present invention relates to flexible material. Bonding of the Clark Fig. 3 structures cannot be performed in a laminating process, but must be done using a wholly different bonding system as the bonding is not between thermoplastics, but between fiber glass composites, metals or ceramics, none of which can be laminated in the laminating processes of this invention.

Because Clark does not disclose or even direct an ordinary artisan to flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark render claims 106-108 obvious.

Applicant, therefore, respectfully requests withdrawal of this rejection.

65. **Claim 109** stands rejected under 35 U.S.C. 103 (a) as being unpatentable over Clark (US 4,588,631).

The Examiner states or contends as follows:

66. Clark discloses the claimed laminate as described above except for the plies having different colors. It would have been an obvious matter of design choice to change the color of the plies in Clark to be of different colors, since such a modification would have involved a mere change in the aesthetics of the plies. A change in the aesthetics is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (I). One of ordinary skill in the art would have been motivated to change the color of the plies in Clark to be differently colored in order to change the visual attractiveness of the laminate. It is desirable to change the visual attractiveness of the laminate in Clark in order to make the laminate more appealing to the consumer.

Clark relates to supports for permeators. The supports comprises mandrel wound layers of tape separated by spaces. The space can be due to corrugated structures or sand interposed between successive tape layers. However, the supports can also be constructed of "a criss-crossed stack of corrugated sheets (15) which may consist of a fiber glass/resin composite, of a metal or of a ceramic (the term being used in its broadest sense), or any other otherwise suitable, **rigid material**." Clark at Col. 6, ll. 52-56.

The Clark structure shown in Fig. 3 requires rigid materials, which relates to structures pictorially similar to the structures of this invention. The present invention relates to flexible material. Bonding of the Clark Fig. 3 structures cannot be performed in a laminating process, but must be done using a wholly different bonding system as the bonding is not between thermoplastics, but between fiber glass composites, metals or ceramics, none of which can be laminated in the laminating processes of this invention.

Because Clark does not disclose or even direct an ordinary artisan to flexible laminates constructed of flexible plies that are bonding through a lamination process which can form attenuated zones (Clark bonds using solvent dissolution), Clark render claim 109 obvious. Applicant, therefore, respectfully requests withdrawal of this rejection.

67. **Claims 106 and 108** stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (US 5,626,944).

The Examiner states or contends as follows:

68. Rasmussen discloses the claimed laminate as described above except for the flutes extending in a generally rectilinear shape and being differently shaped in a pattern which gives a visual effect

showing a name, text, logo or similar. It would have been an obvious matter of design choice to change the shape of the flutes (ribs) in Rasmussen to be in a rectilinear shape and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar, since such a modification would have involved a mere change in the shape of the flutes. A change in shape is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (IV). One of ordinary skill in the art would have been motivated to change the shape of the flutes (ribs) in Rasmussen to be rectilinear in shape and be differently shaped in a pattern which gives a visual effect showing a name, text, logo or similar in order to change the visual appearance of the laminate. It is desirable to change the visual appearance of the laminate in Rasmussen in order to make the laminate more appealing to the consumer.

Rasmussen '944 does not disclose or even direct an ordinary artisan to laminating fluted plies, where the fluted plies bond at points of intersection of the flute crests. While Rasmussen '944 does disclose waved structures, the waves are formed into the cross-laminate after the cross-laminated is formed. In fact, the present invention can use cross-laminates of Rasmussen '944 in the construction of the fluted plies.

Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot render claims 106 and 108 obvious. Applicant, therefore, respectfully requests withdrawal of this rejection.

69. **Claim 109** stands rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmussen (US 5,626,944).

The Examiner states or contends as follows:

70. Rasmussen discloses the claimed laminate as described above except for the plies having different colors. It would have been an obvious matter of design choice to change the color of the plies in Rasmussen to be of different colors, since such a modification would have involved a mere change in the aesthetics of the plies. A change in the aesthetics is generally recognized as being within the level of ordinary skill in the art, absent unexpected results. MPEP 2144.04 (I).

One of ordinary skill in the art would have been motivated to change the color of the plies in Rasmussen to be differently colored in order to change the visual attractiveness of the laminate. It is desirable to change the visual attractiveness of the laminate in Rasmussen in order to make the laminate more appealing to the consumer.

Rasmussen '944 does not disclose or even direct an ordinary artisan to laminating fluted plies, where the fluted plies bond at points of intersection of the flute crests. While Rasmussen '944 does disclose waved structures, the waves are formed into the cross-laminate after the cross-laminated is formed. In fact, the present invention can use cross-laminates of Rasmussen '944 in the construction of the fluted plies.

Because Rasmussen '944 does not disclose laminates comprising crossing fluted plies bonded at points of intersection, Rasmussen '944 cannot render claims 109 obvious. Applicant, therefore, respectfully requests withdrawal of this rejection.

Conclusion

The Examiner states or contends as follows:

71. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The U.S. 3,649,431 patent is cited for further teachings of a laminate similar to that instantly disclosed.

Applicants acknowledge the statements of the Examiner.

If it would be of assistance in resolving any issues in this application, the Examiner is kindly invited to contact applicant's attorney Robert W. Strozier at 713.977.7000

The Commissioner is authorized to charge or credit Deposit Account 501518 for any additional fees or overpayments.

Date: **8 October 2009**

Respectfully submitted,

/Robert W. Strozier/

Robert W. Strozier, Reg. No. 34,024